
Claims

What is claim is:

1. A method for desulphurizing a molten ferrous material, comprises a reactive desulphurizing agent, said reactive desulphurizing agent further comprises of desulphurizing reactants, wherein at least one desulphurizing reactant contains a sodium compound.
2. A method as defined in claim 1, wherein the sodium compound is in a sodium silicate composition.
3. A method as defined in claim 2, wherein the sodium silicate composition comprises:
 - a. a sodium oxide, Na_2O ; and a silicon oxide, SiO_2 ; wherein further,
 - b. x parts of Na_2O and of y parts of SiO_2 ; wherein yet further,
 - c. the ratio, y/x , is anywhere from 0.5 to 5.
4. "Amended" A process of claim 3, wherein the fusion of the sodium oxide and the silicon oxide takes place in a glass tank.
5. "Amended" A process of claim 3, wherein the fusion of the sodium oxide and the silicon oxide takes place in a rotary furnace.
6. A method as defined in claim 1, wherein the reactive desulphurizing agent comprises of a sodium silicate and at least one other non-sodium desulphurizing reactant.

7. A method as defined in claim 6, wherein the non-sodium desulphurizing reactants, in the reactive desulphurizing agent, are selected from a group of alkali earth metal compounds, alkaline metal compounds and other metals, compounds, composition and combinations thereof.

5 “Deleted”.

9. “Twice Amended” A method as defined in claim 7, wherein the desulphurizing agent comprises of a sodium silicate and non-sodium desulphurizing reactants, wherein the sources for said non-sodium desulphurizing reactants are obtained from calcined materials: a lime, dolomite and an alumina.

10 10. A method as defined in claim 9, wherein lime, dolomite and alumina provide:

- a. calcium oxide;
- b. magnesium oxide; and
- c. aluminum oxide.

15 11. “Seven Times Amended” A method as defined in claim 9, wherein the desulphurizing agent comprises a solid mixture of from about 7 to about 50% by weight of sodium oxide, from 7 to about 50% by weight of silicon oxide, less than or equal to about 45% by weight of calcium oxide, less than or equal to about 8% by weight of magnesium oxide, and less than or equal to about 25% by weight of aluminum oxide.

12. "Amended" A method according to claim 9, wherein the reactive desulphurizing agent is placed in intimate contact with a molten ferrous material for the purpose of replacing the sulphur contaminant in the iron.

13. "Deleted".

5 14. "Deleted".

15. "Deleted".

16. "Amended" A method according to claim 12, wherein at least one metallic solid is introduced into the desulphurized molten ferrous material to deoxidize or reduce the iron in the molten ferrous material.

10 17. A method as defined in claim 1, wherein the reactive desulphurizing agent is placed in intimate contact with molten ferrous materials.

18. A method according to claim 17, wherein at least one metallic solid is introduced into the desulphurized molten ferrous material to deoxidize or reduce the iron in the molten ferrous material.

15 19. A method as defined in claim 1, wherein the ferrous material is selected from a group comprising: iron, pig iron, iron alloy, steels, mixtures thereof and other ferrous materials and wherein said ferrous material is contaminated with sulphur.

20. "New" A method derived from claim 1, wherein the desulphurizing agent is also a fluxing agent.

21. "New" A method as defined in claim 20, wherein the fluxing agent enhances the process of replacing of sulphur in the ferrous material.